

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A casting apparatus comprising:

a die which has an opening section above the die so as to pour a molten metal therefrom;

a plate-shaped heater disposed above the die horizontally;

a gas supplying section which supplies an inert gas to a surface of the molten metal;

a lid which is disposed horizontally between the surface of the molten metal and the heater; and

a lid moving structure which moves the lid relatively to the die and controls an opening amount of the opening section above the die,

wherein:

the lid moving structure controls a flow rate of an inert gas exhausted from a surface of the molten metal so that the flow rate is determined in accordance with a flow amount of the inert gas supplied from the gas supplying section and the opening amount of the opening section above the die; and

the flow rate of the inert gas is in a predetermined range.

2. (Original) A casting apparatus according to claim 1 wherein the lid moving structure adjusts the opening amount according to a flow amount of the inert gas.

3. (Original) A casting apparatus according to claim 1 wherein the lid moving structure has a structure for moving the lid relatively to the die vertically, horizontally, or rotatively.

4. (Original) A casting apparatus according to claim 1 wherein:
the molten metal is a molten silicon; and
at least a bottom surface of the lid is coated by a non-reactive material with a silicon oxide gas or a silicide.

5. (Canceled)

6. (Previously Presented) A casting apparatus according to claim 1 wherein the plate-shaped heater is support in parallel with the lid.

7. (Currently Amended) A casting apparatus ~~according to claim 1~~ comprising:
a die which has an opening section above the die so as to pour a molten metal
therefrom;
a plate-shaped heater disposed above the die horizontally;
a gas supplying section which supplies an inert gas to a surface of the molten metal;
a lid which is disposed horizontally between the surface of the molten metal and the
heater; and
a lid moving structure which moves the lid relatively to the die and controls an
opening amount of the opening section above the die,

wherein:

the lid comprises a first plate having at least a first hole, and an adjacent second plate having a corresponding number of second hole; and

the first plate is configured to rotate relative to the second plate such that each first hole coincides with each second hole.

8. (Previously Presented) A casting apparatus according to claim 1 further

comprising an additional heater disposed below the die.

9. (Currently Amended) A casting apparatus comprising:

a die having an opening section;

a heater disposed above said die;

a gas supplying section configured to supply an inert gas to a surface of molten metal provided within said die;

a lid configured to be disposed between the surface of the molten liquid and said heater; and

means for adjusting an opening amount of said opening section according to a flow amount of the inert gas to the surface of the molten metal,

wherein:

the means for adjusting controls a flow rate of an inert gas exhausted from a surface of the molten metal so that the flow rate is determined in accordance with the flow amount of the inert gas supplied from the gas supplying section and the opening amount of the opening section above the die; and

the flow rate of the inert gas is in a predetermined range.

10. (Previously Presented) The casting apparatus according to claim 9, wherein said means for adjusting adjusts said opening amount of said opening section wherein a flow speed of the inert gas flowing out of the opening section between said lid and said die is constant.

11. (Previously Presented) The casting apparatus according to claim 10, wherein said means for adjusting increases said opening amount of said opening section when the flow

speed of the inert gas flowing out of the opening section between said lid and said die increases, and decreases said opening amount of said opening section when the flow speed of the inert gas flowing out of the opening section between said lid and said die decreases.

12. (Previously Presented) The casting apparatus according to claim 9, wherein said means for adjusting adjusts said opening amount of said opening section by moving said lid relative to said die.

13. (Previously Presented) The casting apparatus according to claim 12, wherein said means for adjusting adjusts said opening amount of said opening section by vertically moving said lid relative to said die.

14. (Previously Presented) The casting apparatus according to claim 12, wherein said means for adjusting adjusts said opening amount of said opening section by horizontally moving said lid relative to said die.

15. (Previously Presented) The casting apparatus according to claim 12, wherein said means for adjusting adjusts said opening amount of said opening section by rotating said lid relative to said die.

16. (Currently Amended) ~~The~~ A casting apparatus according to claim 12 comprising:
a die having an opening section;
a heater disposed above said die;
a gas supplying section configured to supply an inert gas to a surface of molten metal
provided within said die;
a lid configured to be disposed between the surface of the molten liquid and said
heater; and

means for adjusting an opening amount of said opening section according to a flow amount of the inert gas to the surface of the molten metal,

wherein:

said lid comprises a first plate having a first hole, and an adjacent second plate having a second hole, and

said means for adjusting adjusts said opening amount of said opening section by rotating said first plate relative to said second plate such that said first hole coincides with said second hole.

17. (Previously Presented) The casting apparatus according to claim 9, further comprising an additional heater disposed below said die.

18. (Canceled)

19. (Canceled)

20. (Currently Amended) A casting apparatus according to claim 1, wherein the predetermined range of the flow rate of the inert gas is controlled so that impurities are not included in the ~~metal~~ molten metal and the lid does not move due to the inert gas flow.